Constellation Energy Source
A Member of the Constellation Energy Group

Geothermal Heat Pump Experience

Constellation Energy Source Experience

- Extensive ESPC & GHP Experience
- Environmental Assessment and Compliance
- Comprehensive Approach to GHP and Energy Conservation Projects
- Expertise in National Federal Contracts and Streamlining Processes
- Vendor Neutrality
- Utility Rate and Regulatory Experience
- Financing of Federal Projects

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Constellation Energy Source Provides Energy and Cost Savings for Federal Facilities

Constellation Energy Source was selected by the Department of Energy to execute performance-based geothermal heat pump projects at federal facilities throughout the nation. As a result, Constellation Energy Source has developed, financed and implemented these energy savings at qualified facilities in return for fixed payments from the cost savings of the projects. The payment terms are negotiated and the facility retains all remaining cost savings after the contract term expires.

These projects will assist federal agencies in meeting their renewable energy and energy savings mandates while reducing operating and maintenance costs. Geothermal heat pumps and related energy technologies will improve the quality and efficiency of space conditioning in these facilities.

Geothermal heat pump systems provide both a high level of comfort and low energy costs because they rely primarily on the earth's natural thermal energy. The only additional energy geothermal heat pump systems require is a relatively small amount of electricity that is used to concentrate what nature provided and then release high-quality heating or cooling inside the building. The result is a comfortable climate-control system that is easily regulated on a zone-by-zone basis.

Constellation Energy Source is ready to evaluate the energy savings opportunities at your facility. Please contact us to arrange for a preliminary evaluation.

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Constellation Energy Source, a member of the Constellation Energy Group, is a full service energy company that provides businesses and Federal Agencies with comprehensive and creative solutions to meet the diverse and vast energy needs of their respective facilities. Constellation Energy Source utilizes its technical expertise to increase the efficiency and performance of Federal facilities with a focus on system requirements and agency mission.

After a thorough analysis of your operation, Constellation Energy Source develops a customized action plan that provides the most reliable, practical solutions from both a technical and financial point of view. We partner only with vendors who have proven expertise at delivering top-quality products, competitively priced. Furthermore, our strong relationships and extensive experience with a variety of financing resources – banks, government sources, leasing companies and private investment pools – offer you a number of financing options from which to choose.

Constellation Energy Source is your full service partner for energy-related products and services. Our energy experts are prepared to develop and follow-through on a custom-made plan to maximize your efficiency and reduce costs for your unique facility and requirements.

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GHP / ESPC Reference Projects

GHP Super ESPC Facts for Federal Facilities

- GHP is Energy Efficient, Environmentally Clean, Cost Effective, and Proven
- Utilizes the Earth's Temperature as a Heat Source in the Winter and a Heat Sink in the Summer
- Reduces Energy Costs Through the Use of Renewable Energy
- Assists with Goals Established by E.O. 13123, *"Greening the Government Through Efficient Energy Management"*
- Can Integrate other Energy Conservation Projects with GHP Projects
- Tech-Specific Super ESPC's are Proven and Recommended Contract Vehicles for Federal Facilities
- Minimizes Risks of Volatile Energy Prices
- Provides Facility Improvements without Capital Appropriations
- Minimizes Maintenance Costs for Utility and Energy Consuming Systems

U.S. Army Aberdeen Proving Ground

Geothermal Technology Specific Super ESPC

Project Cost: $5.7 million, Annual Savings: $600,000
Project Scope: Installation of 643 geothermal heat pump systems for military family housing. These new systems also included the installation of de-super heaters to the existing Domestic Hot Water Heaters in each unit to further add additional energy savings to the project. The project was entirely paid for out of the annual energy savings. Constellation Energy Source will maintain, repair, and guarantee the performance of the entire system for 20 years.

Other ECM Project Costs: $15 million, Annual Savings: $2,500,000
Project Scope: Installation of several post-wide lighting improvements, window replacements, design/installation of electrical substations, steam system repairs and expansion, conversion of oil-fired boilers to dual fuel, Back Pressure Steam Turbine Cogeneration and installation of variable speed drives on centrifugal chillers.

U.S. Postal Service – Main Distribution Center & 35 Branch Offices

Project Cost: $3 million, Annual Savings: $479,000
Project Scope: Geothermal Retrofits, Lighting Upgrades, Motor and Transformer Replacement, and Training.

- **Abingdon Post Office** – The existing heating and cooling system was a 9 year old, 15-ton air-to-air electric heat pump that had compressor failures. A new geothermal heating and cooling system with 10 vertical loops was installed.
- **New Windsor Post Office** – The present system was an electric air conditioning system with a 40-gallon electric water heater and oil-fired boiler used for heating. We installed a 10-ton geothermal heating and cooling system with 8 vertical loops for heating, cooling, and domestic hot water.
- **Cordova Post Office** – The existing system was a 4-ton air-to-air heat pump system that was replaced with a high efficiency 4-ton geothermal system.
- **Union Bridge Post Office** – The current system was a 125,000 Btu oil fired furnace and a 7.5-ton air conditioning unit. It was replaced with a new 9-ton geothermal system and loop field.

U.S. General Services Administration

Project Cost: $12 million, Annual Savings: $650,000
Project Scope: Turnkey Central Plant – Design/Build, Energy Management Control System Design & Installation, Chilled Water Loop Construction, On-Site Generation, Lighting and Comprehensive Energy Audits.